from the hyphæ. He treats of the organism as a yeast form, and while in his artificial cultures a large number of the individuals were rod-like, some presented an irregularly lobed form. These forms together with the development of the bacteroids from the hyphæ he judges separates the organism from the true *Schizomyceteæ*. He accepts Frank's name *Rhizobium leguminosarum*, but believing it to be related to Metschnikoff's *Pasteuria ramosa*,[95] he locates it in the *Pasteuriaceæ*.

During the last year an article on this subject has appeared from an American writer.[96] The original part of Schneider's paper deals with the morphology of the bacteroids of several leguminous species, the variations in form of the bacteroids alone seeming in the estimation of the author sufficient ground for the characterization of species, and several species and varieties are named. Schneider accepts Frank's generic name *Rhizobium*, but rejects his theory of a mycoplasm. He denies the genetic connection of the bacteroids with the hyphæ, and definitely rejects the idea of any causal relation of the fungus hyphæ to the tubercles. He observes fungus threads in the tubercles, but cannot differentiate them from fungus threads which he finds in other parts of the roots where there are no tubercles.

[*To be concluded.*]

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BRIEFER ARTICLES.

Two new plants from Washington.—Allium Hendersoni.—About a foot high: bulb white, ovate, 6–7 lines in diameter, finely but indistinctly reticulated: leaves 2, linear-oblong, attenuate, thickish, 4–6 inches long, as many lines broad: scape rather stout, much exceeding the leaves: umbels many-flowered, globose: spathe 3-parted; bracts ovate, acuminate, 6–8 lines in length: pedicels 8–10 lines long: segments of the perianth rhombic-ovate, acuminate, 3–4 lines long, purple, with light midrib: stamens exserted: ovary 6-crested: seeds dull black, compressed, obovate, 1½ lines in length.—Collected near Pull-

[95] Pasteuria ramosa, un représentant des bactéries a division longitudinale. Ann. d. l'Inst. Pasteur. II. (1888.) 165–170.

[96] Observations on some American Rhizobia. Bull. Torrey Bot. Club XIX. July, 1892.

man, Washington, June, 1892, by Prof. Louis F. Henderson, (n. 2,482) and in a neighboring locality and same month by Mr. W. R. Hull (n. 621).

Near *A. Lemmoni* Wats. but differing in the relatively much shorter and broader leaves, much more numerous flowers, distinctly exserted stamens and 3-parted spathe; differing from *A. platycaule* Wats. in its taller scape, shorter and broader perianth segments and crested ovary.

Calochortus ciliatus.—Low, 6–8 inches in height, branched above: bulb ovate, ½ an inch in diameter: leaf solitary, 2½–3 lines broad, equalling the 4–8-flowered stem: bracts linear, attenuate: flowers rather small: sepals ovate, acuminate, greenish-white, scarious-margined, 4–6 lines long: petals of equal length, light bluish-purple, paler towards the edges, triangular-lanceolate, rather abruptly narrowed at the base, conspicuously ciliate, glabrous except the yellow doubly fringed lunate scale of the gland: stamens half as long as the petals: anthers oblong, sagittate, apiculate, 2–2½ lines in length: capsule elliptical in outline, acutely 3-winged, 7–8 lines long.—Collected by T. S. Brandegee, Wenatchie Region, Washington, July, 1883 (n. 1,107), and by Prof. L. F. Henderson on grassy slopes among pines, upper Nachez river, Yakima co., Washington, June, 1892 (n. 2,485).—B. L. Robinson and H. E. Seaton, *Gray Herbarium, Cambridge, Mass.*

EDITORIAL.

There is an extraordinary diversity of usage in the matter of citation of references, much more than would be imagined by those who have not directed their attention to it. Writers who would be unsparing in their condemnation of carelessness in observation or experiment are strikingly careless in their citation of the work of others. Some papers on the contrary which have less value in themselves are characterized by such complete and accurate bibliography that they become valuable in spite of their scanty additions to knowledge.

It seems to us that the cardinal rule that should govern citations is that papers should be so cited that they can be found with the least possible expenditure of time and trouble by one who wishes to consult them. What information is indespensable will vary with the nature of the publication. For instance the citation "Bot. Gaz. 1890. 132" would enable one to find a given paper; but the citation "Bot. Centralb. 1890. 132" would not, since there are four pages bearing that number in the four volumes for 1890. If it were so cited the seeker might have to examine all of these before finding the one desired.